

Fellowship in Maxillofacial Trauma

Goals

To establish a comprehensive training program for maxillofacial surgeons in the management of maxillofacial trauma.

Objectives

Knowledge: The trainee should acquire detailed knowledge pertaining to the cases of maxillofacial trauma which includes diagnosis of different hard and soft tissue injuries as a result of trauma based on history, clinical and radiological evaluations and complete knowledge of all aspects of the management of maxillofacial trauma patient including restoration of esthetics and function.

Skills & Attitudes: The trainee should, at the end of one year, be able to provide unified care in all aspects of maxillofacial trauma. The specific surgical skills required are

1. Initial Assessment and Intensive care of the trauma patients
2. Emergency airway management in the traumatized patients
3. Recognition and management of shock
4. Neurologic evaluation and management
5. Evaluation and management of injuries other than head and neck traumatic injuries along with other specialities
6. Advances in Maxillofacial trauma surgery
7. Early assessment and treatment planning of the maxillofacial trauma patient
8. Radiographic evaluation of facial injuries
9. Diagnosis and management of dentoalveolar injuries
10. Mandibular fractures and their management
11. Trauma to the temporomandibular regions and their management
12. Management of fractures of the zygomatic complex and arch.
13. Diagnosis and Treatment of Midface Fractures including naso-orbito-ethmoid fractures and orbital wall fractures
14. Diagnosis and management of pan-facial trauma patients
15. Ophthalmic Consequences of Maxillofacial Injuries
16. Evaluation and management of Frontal Sinus Injuries
17. Nasal Fractures and their management
18. Management of Soft Tissue Injuries
19. Management of Human and Animal Bites
20. Diagnosis and management of Traumatic Salivary Gland Injuries
21. Traumatic injuries of Trigeminal Nerve
22. Anaesthetic Considerations in the Acutely injured patient
23. Management of Maxillofacial Firearm Injuries

24. Management of Burns of the Head and Neck
25. Management of Facial Fractures in the Growing Patient
26. Oral and Maxillofacial Trauma in Geriatric Patient
27. Biomaterials for post-traumatic maxillofacial reconstruction
28. Reconstruction of Avulsive defects of Maxillofacial Complex
29. Maxillofacial Prosthetics for the trauma Patient
30. Infection in Patients with Maxillofacial Trauma
31. Principles of fixation for maxillofacial trauma
32. Management of residual deformities

The trainee should develop a compassionate attitude towards dealing with both the patients as well as their relatives.

Communication abilities

It is essential to develop skills required to maintain a harmonious working relationship with all the specialists involved such that the principles of good team management can be established.

Course contents (syllabus)

Essential Knowledge: The trainee should acquire detailed knowledge pertaining to the cases of maxillofacial trauma. Complete knowledge of all aspects in the management of different types of traumatic deformities including the concept of team management with interaction between associate specialties like anesthesia, general surgery, ENT, orthopaedics, ophthalmology and neurosurgery.

Skills & Attitudes: The trainee should, at the end of year, be able to provide seamless care in all aspects of treatment of maxillofacial trauma. The specific surgical skills required are:

- Initial Assessment and Intensive care of the trauma patient
- Emergency airway management in the traumatized patients
- Recognition and management of shock
- Neurologic evaluation
- Early assessment and treatment planning of the maxillofacial trauma patient
- Radiographic evaluation of facial injuries
- Diagnosis and management of dentoalveolar injuries
- Mandibular fractures and their management
- Trauma to the temporomandibular regions and their management
- Management of fractures of the zygomatic complex and arch.
- Diagnosis and Treatment of Midface Fractures including naso-orbito-ethmoid fractures and orbital wall fractures
- Diagnosis and management of pan-facial trauma patients
- Ophthalmic Consequences of Maxillofacial Injuries
- Evaluation and Management of Frontal Sinus Injuries

- Nasal Fractures and their management
- Management of Soft Tissue Injuries
- Management of Human and Animal Bites
- Diagnosis and Management of Traumatic Salivary Gland Injuries
- Traumatic injuries of Trigeminal Nerve
- Management of Maxillofacial Firearm Injuries
- Management of Burns of the Head and Neck
- Management of Facial Fractures in the Growing Patient
- Managing Oral and Maxillofacial Trauma in Geriatric Patient
- Reconstruction of Avulsive defects of Maxillofacial Complex

Essential investigation and diagnostic procedures:

1. Clinical evaluation of traumatic injury by inspection and palpation.
2. Radiological evaluation by the use of routine radiographs including OPG, PNS views, PA views etc and also evaluation with the use of CT scans, MRI's, Ultrasonography etc.

Procedural and operative skills

Graded responsibility in care of patients and operative work (Structured training schedule): a structured program will be followed to introduce the trainee to the evaluation and management of patients of maxillofacial trauma.

By the end of the trauma fellowship programme candidate should have successfully completed ATLS course.

The recognized trauma center must be performing not less than 250 surgical procedures in the area per annum in order to be able to provide sufficient training material for the fellowship candidate.

Each fellow at the end of one year should have carried out at least 75 cases under the supervision of a senior specialist on all aspects of maxillofacial trauma surgery.

+Key:

O – Washed up & observed

A – Assisted a more senior surgeon

PA – Performed procedure under the direct Supervision of a senior specialist.

PI – Performed independently.

Surgical procedures:

Procedures	Category	Number
Mini Plating (Champy’s Principle)	PA	15
Trans buccal Plating	PA	5
Mid face osteosynthesis	PA	10
Zygoma elevation and fixation	PA	10
NasoOrbitoEthmoid plating	PA	5
Frontal fracture management	A	5
Tracheostomy	A	5
Residual deformity management	A	5
Lag screw osteosynthesis	A	5
Management of continuity defects and Bone grafting	A	5
Circummandibular splinting	PA	5

The above suggested categories level of training and number are minimal requirements. The students / teachers are encouraged to advance these further to the best of their abilities and also strive to gain experience in many procedures that are not listed.

Eligibility criteria for candidates:

The candidates applying for fellowship should have successfully completed either of the following:

1. MDS in Oral Maxillofacial Surgery in DCI approved program.
2. Passed FDSRCS from the Royal College of Surgeons of England, Glasgow or Edinburgh.
3. Passed FFDRCSI from the Royal College of Surgeons of Ireland.

Requirements For accreditation of an institution:

The department of Maxillofacial Surgery should have been in existence in the institution as an independent unit or as a part of the dental college. Should have performed at least **250** major maxillofacial surgical procedures related to maxillofacial trauma surgeries in the previous year.

Should have facilities to train in ATLS

The Staff:

The director of the program should be an actively practicing and dedicated maxillofacial surgeon

- **Should have done at least 600 major surgical procedures related to maxillofacial trauma and training in ATLS.**
- **With a minimum of 10 years of post MDS experience who is attached to a 100 bedded multispecialty hospital with ICU or an exclusive 20 bedded maxillofacial surgery hospital with ICU.**
- **The hospital should have a round the clock Emergency unit**

Teaching / Learning activities: The training program must include the following didactic activities:

1. Lectures by faculty not only in maxillofacial surgery but also in related specialties like anesthesia, neurosurgery, orthopedics etc.
2. Every fellow would have to develop and complete at least one research project which could be either clinical or lab based, preferably leading to either a presentation or publication in a PubMed indexed peer reviewed journal.

Participation in departmental activities:

- a. **Journal reviewed meetings:** One session every two weeks.
- b. **Seminars:** One session every two weeks
- c. **Clinico-pathological conferences:** Not essential
- d. **Inter departmental meetings:** One multi- disciplinary trauma team meeting a week to discuss management protocols for specific cases (core specialist required are maxillofacial surgeon, neurosurgeon, orthopaedics, general surgeons, ENT, anesthesia etc.
- e. **Community work:** camps/ field visits: It is important to improve awareness amongst the local population about the etiology, prevention and management of traumatic deformities. The trainee shall learn to organize camps in various districts surrounding the trauma center. Follow up field visits are also essential.
- f. **Clinical rounds:** Daily two rounds shall be held, at least one of which will be led by the consultant.
- g. **Any other:** Trainees will be encouraged to publish papers in peer reviewed journals.

Orientation program: Ex: a) Use of library b) Laboratory procedures c) National programs
d) Any other: Not essential.

Training and teaching skills and research methodology:

Trainees will be encouraged to participate in teaching activities related to MDS (Oral Maxillofacial Surgery). Fellowship trainees will have to initiate and complete an independent research project under supervision.

Monitoring of teaching / learning activities

Methods:

1. Direct consultant to trainee interaction.
2. Maintenance of log book.
3. Formal quarterly review of performance.

Final Assessment to be submitted by the Director at the end of Programme to AOMSI.**Recommended books and journals:**

1. Booth PW, Eppley BL, Schmelzeisen R Maxillofacial Trauma and Esthetic Facial Reconstruction 2nd Edition St. Louis Elsevier Saunders 2012.
2. Fonseca RJ, Barber HD, Powers M, Frost DE Oral and Maxillofacial Trauma 4th Edition St. Louis Elsevier Saunders 2012.
3. Rowe NL, Williams JL Maxillofacial Injuries 2nd edition Vol 1-2 The University of Michigan Churchill Livingstone 1994.
4. Killey HC, Seward GR, Harris M, McGowan DA Killey and Kay's Outline of Oral Surgery 2nd edition Part I and 2 The University of Michigan Wright 1987.
5. Andersson L, Kahnberg KE, Pogrel MA Oral and Maxillofacial Surgery 4th Edition Wiley – Blackwell August 2010.
6. Bagheri SC, Jo C Clinical Review of Oral and Maxillofacial Surgery 2nd Edition Elsevier Health Sciences December 2013.
7. Ellis E, Zide MF Surgical Approaches to Facial Skeleton 2nd Edition Lippincott Williams and Wilkins 2006.